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287	Rigidity Tests on Union Steel Products Co. Dowel Bar Joint Assembly (Type L.)	L. T. Odhler
288	Study of Premolded Bituminous Base Plate for Joints	L. A. Fickes
289	Rigidity Tests on Universal Form Clamp Co. Dowel Bar Joint Assembly (Type M)	L. T. Odhler
290	Investigation of Use of Berylex as an Admixture in Concrete	M. G. Brown
291	Power-Glo Additive for Automobile Use	A. J. Permada M. H. Janson
292	Reflectance Tests for Concrete Curing Materials	C. C. Rhodes M. H. Janson M. G. Brown
293	The Structural Characteristics of a Plastic Fiberglass Overhead Sign Support Structure	G. R. Cudney
294	Michigan's Skid Testing Equipment	M. G. Brown Paul Milliman Gale Otto
295	Relative Skid Resistance of Pavement Surfaces Based on Michigan's Experience	E. A. Finney M. G. Brown
296	Progress Report on Study of Dynamic Load Aspects of Truck Size and Weight	E. A. Finney
297	Operating Manual for Soil Density and Moisture Measurements by Nuclear Methods	B.W. Pocock L. W. Smith W. H. Schwartz
298	1957 Performance Tests on White and Yellow Traffic paint	A. J. Permada Wm. Martin M. H. Janson
299	1957 Traffic Paint Performance Test: Oakland Avenue, Detroit	A. J. Permada Wm. Martin M. H. Janson
299A	1957 Traffic Paint Performance Test: Oakland Avenue, Detroit	A. J. Permada Wm. Martin M. H. Janson

300	Determination of Cement Content of Pavement Concrete: Construction Project F 62031, C2U, C3R	C. C. Rhodes M. H. Janson W. L. Frederick S. W. Ruis
301	1958 Performance Tests on White and Yellow Traffic Paints	A. J. Permoda Wm. Martin M. H. Janson
302	Final Report–Design Project , Michigan Test Road	E. A. Finney L. T. Oehler
303	Comparison of Stability of Three Types of Steel Fence Post	S.L. DeLeeuw G. R. Cudney
304	Field Evaluation of Concrete Curing Materials	M. G. Brown
305	Spectrophotometric Identification of Membrane Curing Compounds	M. H. Janson
306	Performance of a 20-Year-Old Section of US 27: Marshall to the Eaton County Line (13072)	R. C. Mainfort O. L. Lindy
307	A Device for Applying SR-4 Strain Gages to Interior Surfaces of Hollow, Pavement Load-Transfer Dowel Bars	P. Milliman
308	Operating Manual for Soil Density and Moisture Measurements by Nuclear Methods	B. W. Pocock L. W. Smith W. H. Schwartzje
309	Rock Salt Anti-Caking Agent Investigation	W. Frederick
310	An Evaluation of the Serviceability of Calcium Chloride Bags	R. C. Mainfort
311	The Michigan Combination Density-Moisture Gage for Soils	B. W. Pocock L. W. Smith W. H. Schwartzje R. E. Hanna
312	Catatherm Thermoplastic Striping	A. J. Permoda Wm. Martin M. H. Janson
312A	Up to Date Summary of Durability of Catatherm Thermoplastic Striping under Departmental Evaluation	A. J. Permoda
313	Testing of Aluminum Alloy Deep Beam Guard Rail	G. R. Cudney R. E. Hooper
314	An Experimental Continuously Reinforced Concrete Pavement in Michigan	G. R. Cudney
315	Pull-Out Tests on Four Types of Expansion Sleeve Tie Bar Devices	R. E. Hooper G. R. Cudney
316	The Michigan Nuclear combination Density-Moisture Surface Gage	B. W. Pocock L. W. Smith W. H. Schwartzje R. E. Hanna
317	Highway Research Program	E. A. Finney W. D. Bennett

318	1958 Performance Tests on White and Yellow Traffic Paints	A. J/ Permoda Wm. Martin M. H. Janson
319	1959 Road Test on 1,000 Gallons of 3M Centerlite Prebeaded White Traffic Paint	A. J. Permoda
320	Summary Report on Methods of Glass Bead Reflectorization of Traffic Paints	A. J. Permoda
321	Latex Modified Mortar in the Restoration of bridge Structures	S. M. Cardone M. G. Brown A. A. Hill
322	The Michigan Test Road Durability Project	C. C. Rhodes E. A. Finney
323	No Publication	
324	1959 Summaries of Pavement Roughness	Onto L. Lindy Paul Milliman
325	Roughness Measurements of Bridge Decks and Approaches	R. E. Hooper L. T. Oehler
326	Contract Signing, Interstate 94 (US 12), 5 mi East from Paw Paw; BI 80024, C2RN & C5RN; I 94-2(5)-60	A. J. Permoda
326A	Contract Signing, Interstate 94 (&S 12), 5 mi East from Paw Paw; BI 80024, C2RN & C5RN; I 94-2(5)-60	M. H. Janson
327	Transverse Joint Problems	E. A. Finney
328	Comparative Tests of Beaded Paint and Sheet Materials for Sign Reflectorization	C. C. Rhodes A. J. Permoda M. H. Janson
329	Design Considerations for Steel Reinforcement in Continuously Reinforced Pavement	G. R. Cudney
330	Design Considerations for Reinforcement and Joint Spacing for Pavements with Small-Radius Curves	G. R. Cudney
331	Experimental Concrete capping on Groesbeck Highway: Project F50-7, C5. Third Progress Report	O. L. Lindy
332	Deterioration of Concrete Highways and Bridges Containing Big Cut Pit Aggregates	O. L. Lindy M. G. Brown
333	No Publication	
334	Study of Premolded Rubber and Polyvinyl Chloride Base Plate for Joints	D. F. Simmons C. C. Rhodes
335	Cement Content of Pavement Concrete: US 12 South of Paw Paw (BI 80024, C2RN),	C. C. Rhodes M. G. Brown
336	Flasher Brightness at Selected Intersections	M. H Janson G. M. Smith
337	Roughness Evaluation of Railroad Crossings in Battle Creek	R. Hooper

338	Granco Steel Guard Rail Post (6-1/2 x 3-1/2 x 8.64 "S" Section)	G. R. Cudney
339	Quantity and Distribution of Calcium Chloride Within Stock-Piles of Treated Aggregate	R. C. Mainfort F. Copple
340	1959 Traffic Paint performance tests: Cooperative Tests with city of Detroit	A. J. Permoda
341	Inspection of Fiberglass Reinforced Plastic Overhead Sign Support Structure	G. R. Cudney
342	Lateral Stability of Posts for Deep Beam Guard Rail: Second Progress Report	G. R. Cudney
343	Performance of Metallic and Non-Metallic Base Plates of Joints	O. L. Lindy L. T. Oehler
344	An evaluation of Hinged Wire Mesh Reinforcement for Concrete Pavement	R. Hooper
345	Storage and Handling Properties of a Synthetically granulated Salt	R. C. Mainfort J. D. Shackelford
346	Water Leakage on a Prestressed concrete Bridge (B9 of 38-1-14 Dettman Road over US 12, Jackson)	O. Lindy L. T. Oehler
347	Comparison of Clear and White Polyethylene Sheets for Concrete Curing	R. H. Merrill M. G. Brown
348	1959 Performance Tests on White And Yellow Traffic Paints	A. J. Permoda M. H. Janson Wm. Martin
349	Performance of Non-Metallic Base Plates, Fourth Progress Report	L. T. Oehler O. L. Lindy
350	Investigation of Three Spalled Joints, Norton-Glade Expressway, Muskegon, US 16 (Project 61-47.C7)	L. T. Oehler O. L. Lindy
351	Durability of Bridge Concrete: I 75-US 23 Over the Flint River (B1 of 25-7-3),	L. T. Oehler M. G. Brown
352	Lightning Damage to concrete Pavement: US 10 Bypass, Midland (Project 56044, C9)	O. L. Lindy J. R. Darlington
353	Experimental Concrete Capping: US 127 South of Holt (Project F 33-54, C4) Second Progress Report	O. L. Lindy
354	Investigation of Thorite Filling and Patching Compound for Sealing Core Holes In Box Type Prestressed Beams	M. G. Brown
355	Longitudinal Cracking on I 75-US 23, Genesee County	O. L. Lindy
356	Cracking of Slag Aggregate concrete on Gratiot Ave., Detroit (Project 50-27, C4)	L. T. Oehler
357	Summary of Pavement Skid Test Data on the State Trunkline System	M. G. Brown
358	Field and Laboratory Evaluation of the Michigan Nuclear Gage	R. C. Mainfort J. H. DeFoe

359	Investigation of Three Spalled Joints on US 131 South of Grand Rapids (Construction Projects F 41-88, C1RO and M 41-88)	O. L. Lindy
360	Strength comparison of Steel Sign Posts	H. C. Brunke
361	Protective coatings for Structural Steel, Second Progress Report	A. J. Permoda R. L. snider
362	Summary Report on Skid-Correction Program for High-Accident Intersections	R. H. Merrill A. Phillipich
363	Performance of a Fiberglass Reinforced Plastic Experimental Overhead Sign Support Structure	G. R. Cudney
364	Preventive Measures for Obtaining Scale-Free Concrete Bridge Structures	E. A. Finney
365	Continuously Reinforced Bituminous Resurfacing, Detroit Industrial Expressway (I 94), West of Ypsilanti	O. L. Lindy
366	1960 Summary of Pavement Roughness	O. L. Lindy P. Milliman
367	Aggregate Source and Popout Frequency, I 94 from Marshall to Jackson	O. L. Lindy
368	Michigan's Test Road for Transverse Joints, I 96 from Meridian Road to Wallace Road	L. T. Oehler
369	1960 Performance Tests on White and Yellow Traffic Paints	A. J. Permoda R. L. Snider M. H. Janson
370	A Symposium on the Michigan Nuclear Gage for Soils (NOT RELEASED FOR PUBLICATION)	B. W. Pocock R. E. Hanna W. H. Schwartzje C. A. Zapata
371	Performance Testing of a 60-Foot, Open Web Section, Box Truss Aluminum Overhead Sign Support Structure	G. R. Cudney
372	Failure of Stressed Concrete Bridge Deck Beams (X01 of 11016), I 94 over NYCRR	G. R. Cudney
373	Machine Finishing of Bridge B01 of 11016: I 94 over the St. Joseph River	G. R. Cudney
374	Cracks in Retaining Wall on James Couzens Extension of Lodge Expressway	G. R. Cudney
375	Comparison of Stone Dust and Natural Soil Particles as Used for the Fines Fraction of Aggregate Base Course Mixtures, First Progress Report	R. C. Mainfort E. C. Novak
376	Lenz's Proprietary Paints for Creosoted Wood Posts and for Structural Steel	A. J. Permoda
377	Influence of the Minus 200 fraction on Engineering Properties of Soil and Gravel	R. C. Mainfort Josette M. Portigo
378	Inspection of Mixer Efficiencies at Central Concrete Mixing Plants by Means of Gamma Rays	B. W. Pocock W. H. Schwartzje C. A. Zapata R. E. Hanna

379	Propane-Fueled Warning Lights	M. H. Janson G. M. Smith
380	Rustake Glare-Proof fencing	B. W. Pocock
381R	Evaluation of Armor Speed Finish and Gun-Tex as Protective Coatings for Concrete Structures	C. C. Rhodes B. W. Pocock
382	Woven Asbestos Sheet Packing for Bridge Post Pads	L. T. Oehler H. C. Brunke
383	Analysis of Test cores from S04 of 82062, Scotten Ave. over US12 (Michigan Ave.), Detroit,	A. J. Permoda M. G. Brown
384	condition and Roughness Surveys on I 75-US 233 Zilwaukee north to Kawkawlin	L. T. Oehler O. L. Lindy
385	Investigation of Low Test Strength on concrete from Project EBI 17034, CIUN	M. G. Brown
386	Reinforced Polyethylene Sheeting for Curing Concrete (Griffolyn Co. Films)	A. J. Permoda
387	Evaluation of Initial Striping on concrete Pavements, 1960 tests	A. J. Permoda
388	Effects of Erroneous Admixture in Bridge Deck Concrete: S06 of 23152B (I96 at Millett Road)	M. G. Brown
389	Quantity and Distribution of chloride in Aggregate as placed in the stockpile and on the Road	E. C. Novak, Jr R. C. Mainfort
390	Effects of Axle Loads as Applied by Rubber-Tired Earth-Moving Equipment to Rigid and flexible Pavement and Bridges (See 1964 Bound Reports)	F. Copple
391	Evaluation of a Hinged Wire Mesh Reinforcement for Concrete Pavements	H. C. Brunke
392	Comparison of Sodium Chloride and a 3:1 Mixture of Sodium Chloride and Calcium Chloride as Used for Highway Ice Control	J. H. DeFoe R. C. Mainfort
393	Aluminum Chain Link Fencing	C. C. Rhodes
394	Houghton-Hancock Lift Bridge Deck Leakage (B01 of 31012)	M. G. Brown
395	Summaries of Michigan Pavement Roughness 1961 Test Program	P. M. Schafer L. F. Holbrook
396R	Aggregate Source and Popout Frequency, I 94 from Stevensville to Marshall	O. L. Lindy J. W. Sparbel
397	Failures of Continuously Reinforced Pavement, I 96, Portland road to M66	J. E. Simonsen
398	Premolded Rubber and Polyvinyl Chloride Base Plates	E. A. Finney
399	1961 Performance Tests of White and Yellow Traffic Paints	A. J. Permoda R. L. Snider M. H. Janson
400	Preservative Treatments for Timber Piling, First Progress Report	B. W. Pocock

401	“Compriband” Preformed Urethane Joint Sealer	A. J. Permoda D. F. Simmons
402	Curb and Median Joint Sealing to Correct Deck Leakage: Houghton-Hancock Life Bridge (B01 of 31012)	R. H. Merrill
403	Strength Comparison of Steel Sign Posts	H. C. Brunke
404	Laboratory and Field Study of Right-of-Way Fence Wire Splices	H. C. Brunke
405	Placement of Steel: I75 North of St. Ignace (Project No. BI 49025E, C18)	C. J. Arnold
406	Chemical Analysis of Cover Plate Material from Bridges S09 and S10 of 82022 (I 94 over Ecorse Road)	C. J. Arnold
407	Trenching for Expansion Joints	C. J. Arnold
408R	Condition of the Stockbridge Soil-Cement Project after 21 Years of Service (Construction Project M 33-50, C1)	R. C. Mainfort
409	Repair of Continuously Reinforced Pavement—I 96 Portland Road to M 66	J. E. Simonsen
410	1962 Observations on Condition of Experimental Poz-O-Pac Construction (Construction Projects BU 56044, C3UN and C4UN)	R. C. Mainfort
411	Defective Concrete in Bridge Deck Pour: I 94 over US 131 Southwest of Kalamazoo (BI S07 of 39024B, C1)	M. G. brown W. L. Frederick
412	Development of a Rapid Field Method for Determining Optimum Moisture and Maximum Density of Soils	R. C. Mainfort J. H. DeFoe
413	Air Pollutants from Gypsum Plants at the I 96-Grand River Bridge (B03 of 41029E, C1)	M. H. Janson A. J. Permoda
414R	Practical Bridge Loading Limitations in Relation to Current Commercial Vehicle Types and Bridge Design Practice <u>(This Report not Released)</u>	L. T. Oehler P. G. Gray
415R	Experimental Shoulder Stabilization: US 23 North of Alpena (Mn 04032, C6)—First Progress Report <u>(This Report not Released)</u>	E. C. Novak, Jr. R. C. Mainfort
416	Lime Treatment of Ontonagon Clay: I 75 at Pine River (Construction Project BI 49025G, C22RN)	R. C. Mainfort E. C. Novak, Jr.
417R	Form Insulation for Bridge Concrete	C. A. Zapata G. A. Otto
418	Skid Test Results at High-Accident Intersections: Districts 1 through 10—1962 Test Program	M. G. Brown
419	Corrosion of Painted Steel Right-of-Way Posts	B. W. Pocock O. L. Lindy
420	Progress Report on 1962 Traffic Paint Performance Tests	A. J. Permoda
421	Profilometer Measurement of Bridge Roughness—First Progress Report	C. J. Arnold C. D. Church
422	Right-of-Way Fence Sagging Investigation	B. W. Pocock

423	Soil-Aggregate Cushions for Prevention of Reflection Cracking of Resurfaced Pavements—First Progress Report	F. Copple
424	Repair of Continuously Reinforced Experimental Pavement: I 96 from Portland Road to M 66	J. E. Simonsen
425	Terminal Report on Performance of Experimental Concrete Pavement Containing HP 7 Admixture: US 23A in Rogers City (Project F 71-24, C1)	O. L. Lindy
426	Insulation Between Steel and Aluminum for Extruded Traffic Sign Mountings	B. W. Pocock C. A. Zapata
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428	Construction of Michigan's Experimental Transverse Joint Project, I 96 from Meridian Road to Wallace Road (Projects EBI33084, C5 and C7; EBI 33085, C1)	J. E. Simonsen
429	Barrett Urethane Rigid Foam Joint Filler	A. J. Permoda
430	Profilometer Measurement of Bridge Roughness—Second Progress Report	C. D. Church
431	Summaries of Michigan Pavement Roughness—1962 Test Program	P. M. Schafer
432	Reflectorized Delineator Posts (Mid-States Steel and Wire Company)	M. H. Janson P. J. Chamberlain
433	Rusting of Cadmium-Plated Bolt Assemblies on Bridge Railings	P. G. Gray
434	Investigation of Defective Concrete in Bridge Deck Pour: B01 of 63081D, C6 (Southbound I 696 over the Rough River)	M. G. Brown
435	Evaluation of Preformed Rubber Sealer on M 46 West of Alma (Construction Project F29-23 C2)	A. J. Permoda
436	Hydraulic Oil for Use in the Houghton-Hancock Bridge	D. F. Simmons
437	Permalastic "J-Seal PX-1424" Two-Component Joint Sealant	A. J. Permoda
438	Preservative Treatments for Timber Piling—Second Progress Report	B. W. Pocock
439	Progress Report on Salt Stabilized Sections of M 46 (Howard City to Newaygo)—1963 Surveys and Testing	R. C. Mainfort
440	Progress Report on Witcogard Rustproofer for Guard Rails	A. J. Permoda
441	Concrete Durability on bridge Deck Widening: I 94—Edsel Ford Expressway Structure over Dequindre Yards (EBBI X01 of 82024B, C5)	M. G. Brown
442	Investigation of Deck Cracking; I 96 EB over the Grand River in Grand Rapids (B02 of 41027A, C2)	G. R. Cudney M. G. Brown
443	Profilometer Measurement of Bride Roughness—Third Progress Report	C. D. Church
444	1962 Performance Tests of White and Yellow Traffic Paint (Including Cooperative Tests in Detroit and Wayne County)	A. J. Permoda R. L. Snider M. H. Janson
445	Polymer Plastic marker Posts (Handley Industries, Inc.)	A. J. Permoda

446	Application and First Inspection of Epoxy Sealers Between Concrete and Bituminous Wearing Surface of Approach Deck Spans of International Bridge at Sault Ste. Marie (B01 of 17034, C3)	A. J. Permoda R. H. Merrill
447	Summary of Bituminous Concrete Skid Test Data Relative to Materials	M. G. Brown
448	Failure and Repair of Experimental Continuously Reinforced concrete Pavement: I 96 Portland Road to M 66	J. E. Simonsen
449	Progress Report on “Tedlar” DuPont Polyvinyl fluoride Film, Pre-Finished Metals, Inc.	A. J. Permoda
450	Profilometer Measurement of Bridge Roughness—Fourth Progress Report	C. D. Church
451	Lime Treatment of a Detroit Silty Clay; M 39—Southfield Expressway at Oakwood Blvd., Dearborn (Project U 82192B, C21)	E. C. Novak, Jr R. C. Mainfort
452	Progress Report on the Experimental Transverse Joint Project I 96 from Meridian Road to Wallace Road	L. T. Oehler
453	Fasson Reflective Sheeting (Fasson Products Co.)	M. H. Janson
454	Decayed Dimension Guard Rail Posts near Farmington	W. L. Frederick
455	Installation and First Inspection of Experimental Joint Sealants on I 496 (Construction Projects I 33045D, C1, S12 and S14 of 33045D) I 496-7(4) 146	A. J. Permoda
456	Failure of I 94 Joint Sealants: Mt. Clemens to Marysville	M. G. Brown D. F. Simmons
457	Progress Report on 1963 Traffic Paint Performance Tests	A. J. Permoda
458	Scaling of Concrete Bridge Decks Constructed with Stay-In Place Forms	R. H. Merrill J. E. Simonsen
459	Michigan’s Experiment in Using “Unitubes” to Form Trasverse Joints (Construction Project EBI 33084, C7)	J. E. Simonsen L. T. Oehler
460	Fifth Progress Report on Special Painting of Steel Bridge Girders Under Project “Bridges and Bridge Railings—Construction and Maintenance	A. J. Permoda
461	Skid Test Results at High-Accident Intersections: Districts 1 through 10—1963 Test Program	P. M. Schafer C. D. Church
462	Investigation of Snow Fence Post Breakage	J. T. Ellis C. J. Arnold
463	Use of Silicone Admixture in Bridge Deck Concrete: Scotten Ave. Over US 12 (Michigan Ave.), Detroit (Mb So4 of 82062C, C3)	M. G. Brown R. H. Merrill
464	Smoke and Corrosive Industrial Refuse Investigation: I 75 High Level Bridge over the Rouge River, Detroit (Construction Project B01 of 82194G)07-64	M. H. Janson W. L. Frederick M. G. Brown C. C. Rhodes
465	Pavement Evaluation of I 94 Control Section 82021; Detroit Industrial Expressway from Rawsonville Road (Washtenaw-Wayne County Line) to Hannan Road	F. Copple
466	Application and Performance of Epoxy Sealants on Bridge Deck and Walks: Houghton-Hancock Lift Bridge (B01 of 31012)	A. J. Permoda R. H. Merrill

467	Preservative Treatments for Timber Piling: Two-Year Inspection–Third Progress Report	B. W. Pocock W. W. Miller
468	Contract Resealing of Transverse Joints: Sealing and Performance of 1963 Maintenance Projects	D. F. Simmons J. E. Simonsen
469	Profilometer Measurement of Bridge Roughness–Fifth Progress Report	C. D. Church
470	Soil-Aggregate Cushions for Prevention of Reflection Cracking of Resurfaced Pavements–Second Progress Report	F. Copple
471	Evaluation of Telespar Tubing for Use as Highway Sign Supports	J. E. Simonsen
472	Second Annual Inspection of Epoxy Sealer between the concrete and Bituminous Wearing Surface of the Approach Deck Spans of the International Bridge at Sault Ste Marie (B01 of 17034	A. J. Permoda
473	Early Sealing of Concrete Pavement: US 41 Marquette Bypass (Construction Project U 52042E, C8)	M. G. Brown R. H. Merrill
474	Galvanized (Zinc alloy) Steel Base Plates for Joints	O. L. Lindy
475	Experimental Use of Goodyear “Pliopave L-170” Latex Additive in Single Seal of Existing Sealed Shoulders on I 96 near Ionia (construction Project group MR-4 SC-5A, Control Section 34044),	D. F. Simmons
476	Application and First Inspection of “Epoxeal” Penetrating Sealer on Lansing Area Bridge Decks	R. H. Merrill F. J. Bashore
477	Test Application and First Inspection of Koppers Concrete Sealer on Northbound I 496 over GTW RR (X06 of 33045)	F. J. Bashore R. H. Merrill
478	Alleged Damage to Dwelling of A. T. Schmidt, Vassar, Michigan	C. J. Arnold
479	Summary of Laboratory Evaluation of “Silexore” Protective Coatings for Concrete	M. G. Brown
480	1963 Performance Tests of White and Yellow Traffic Paint: (Including Cooperative Tests in Detroit and Wayne County)	A. J. Permoda R. L. Snider M. H. Janson
481	Thermoplastic Pavement Marking on W. P. Chrysler Freeway (Projects BI 82111C, C24; BI 82251C, C34)	A. J. Permoda
482	Field Installation and Inspection of Polymer Plastic Marker Posts	F. J. Bashore
483	Paint Peeling Off Pressure-Treated Wood Posts	A. J. Permoda
484	Performance of Extruded Neoprene Joint Sealer: I 96 from Waverly Road to M 99 (Construction Project EBACI 33083A C1)	C. C. Rhodes J. E. Simonsen D. F. Simmons
485R	Evaluation of Hook Bolts for Longitudinal Bulkhead construction Joints	J. E. Simonsen P. Milliman
486	Repair of Rubber Pad Railroad Crossing (NYC RR Crossing US 23 South of Dundee	J. E. Simonsen
487	Construction and Sealing of Transverse Contraction Joints Containing Acme Load transfer Assemblies	J. E. Simonsen

488	Study of Defective Concrete in Structures on US 2 West of Watersmeet (B02, B03, B04 of 27023B)	R. H. Merrill
489	Progress Report on Evaluation and Application Study of General Motors Corporation Rapid Travel Profilometer	L. T. Oehler P. Milliman
490	Determination of Air Content in Hardened concrete by Gamma-Ray Transmission	B. W. Pocock W. W. Miller
491	Progress Report on Salt stabilized Sections of M 46 (Howard City to Newaygo): 1964 Surveys and Testing	R. C. Mainfort
492	Profilometer Measurement of Bridge Roughness—Sixth Progress Report	C. D. Church
493	Performance of Hot-Poured and Cold-Applied Joint Sealers	C. C. Rhodes L. T. Oehler
494	Further Development and Evaluation of The Michigan Nuclear Gage	R. C. Mainfort J. H. DeFoe
495	Field Evaluation of the Ohmart Nuclear Weighing System	F. Copple
496R	Evaluation of Two-Component, Cold-Pour Joint Sealing in I 75 Rest Areas: Construction Projects I 25032C, C7; BI 73171C, C19; I 09034C, C10 Federal Designations I-75-2(89), I-75-2(90), I-75-2(91)	D. F. Simmons
497R	Studies of Corrosion Resistance of Dowel Bars	A. J. Permoda O. L. Lindy
498	Automatic Weighing of Vehicles in Motion and Collection of Traffic Data by Electronic Methods: Report on Interim Experimental Program Designated “Post part A”	P. Milliman
499	Anti-Glare Fence Specifications	B. W. Pocock
500	Operating Manual for the Michigan Nuclear Soil Density-Moisture Gage	J. H. DeFoe
501	Proprietary Surface Conversion Treatments for Aluminum	A. J. Permoda
502	Snap-In Reflector Buttons	L. T. Oehler
503	Blink-A-Lite “Caution” Sign	M. H. Janson
504	Effect on Bridges of Proposed Changes in Permissible Truck Loads	L. T. Oehler
505	Experimental Installation of chrome-Alloy-Steel Dowels: I 196 from the Grand River to Fuller Ave., Grand Rapids, Federal Designation I 196-5(47) 72	J. E. Simonsen
506	Progress Report on 1964 Traffic Paint Performance Tests	A. J. Permoda
507	Test Rod Skidometer Data for the 1964 Test Year	P. M. Schafer
508	Protective Coatings for Structural Steel: Third Progress Report	A. J. Permoda R. L. Snider
509	Sampling and Analysis of Artesian water in Caisson No. 4 on Fisher Expressway (I 75) Crossing Rouge River in Detroit (B01 of 82194G, C1)	M. G. Brown
510	Survey of Substructures on Edsel Ford Freeway	O. L. Lindy
511	Rust Dissolver and Manganese-Phospholene No. 7	A. J. Permoda

512	Laboratory Test Results on Safe-Ray Glass Beads (High Intensity) for Pavement Marking	A. J. Permoda
513	Performance of Aggregate from the Clarence Sweet Pit (No.3-65) in I 196 Pavement North of South Haven	E. A. Finney
514	Plastic “Men Working “ Sign	M. H. Janson
515	Plastic Signal Lenses	M. H. Janson
516	Inspection of Projects Containing Selected Big Cut Pit Aggregate	F. Copple
517	Dynamic Aspects of Vehicle Size and Weight	E. A. Finney
518	Evaluation of “Ethaforum” Proposed Joint Sealer	M. G. Brown
519	Evaluation of “Epoximent” Admixture for Mortar or Concrete	R. H. Merrill
520R	Survey of I 94 Bridge Crossing Clinton River Cutoff Canal (B01 of 50111)	F. Copple
521	Skid Proofing Treatments at South Cedar Street (US 127) Intersections with Holmes Road and Baker Street in Lansing	R. H. Merrill
522	Structural Evaluation of Steel Snow Fence Posts	H. C. Brunke
523	Pavement Evaluation of I 94 Control Section 82022: Detroit Industrial Expressway from Ozga Road to US 24–Telegraph Road	F. Copple
524	Sixth Progress Report on Special Painting of Steel Bridge Girders under Project :Bridges and Bridge Railings–Construction and Maintenance	A. J. Permoda
525	Failures of Two-Component, Cold-Pour Joint Sealant in New Pavement Construction	F. J. Bashore
526	Summaries of Michigan Pavement Roughness: 1963-64 Test Program	P. M. Schafer
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785	Photometric Test for Reflex Reflective Materials	M. H. Janson G. M. Smith
786	Traffic Noise Factors Related to the Proposed MSU Cross Campus Route	P. Milliman L. E. DeFrain
787	AirQuality Analyses for the Proposed MSU Cross Campus M 43	M. H. Janson W. L. Frederick
788	Evaluation of Polyethylene Strip for Forming Centerline Joint, Final Report	J. E. Simonsen
789	Survey of Pavement Joint Conditions	L. T. Oehler
790R	Recommendations Concerning Concrete Pavement Design and Maintenance	Michigan State Highway Commision
791	Studded Tires: Their Effect on Highways and Vehicle Safety in Michigan	F. Copple
792	Performance Evaluation of Mixed-in-Place Bituminous Stabilized Shoulder Gravel	F. Copple A. P. Chritz
793	Noise Impact on Community Building and Pleasant Ridge Recreation Area, due to proposed I 696 Extension	M. N. Clyde
794	Installation of Traffic Loop Detectors	M. N. Clyde
795	Analyses of Stream Water Along US 131 relocation in Kent and Montcalm Counties, A Progress Report	W. L. Frederick M. H. Janson
796	Study of Delayed Set in Bridge Deck Pour (S05 of 63103)	M. G. Brown
797	Experimental Vehicle Traffic Control Signals: A Final Report	M. N. Clyde
798	1971 Performance Tests of "Fast-Dry" White Pavement Marking Paints	A. J. Permoda
799	Evaluation of "Poxicon" Fly Ash Concrete Admixture, Interim Report	H. L. Patterson
800	Environmental Geologic Study of the Proposed US 127 Alternate Routes	R. W. Noyce T. A. Herbert
801	Pull-Out Tests of Scotchkote-Coated Dowel Bars	J. D. Culp
802	Developing Composition Specifications for Traffic Paints: Regular-Dry Type	A. J. Permoda A. R. Gabel
803	"Elastizell" as an Insulator for Highway Bases	R. C. Mainfort
804	Construction Report on Concrete Pavement Joint Repair with Pre-Cast Slabs	J. E. Simonsen
805	A Method of Determining Subbase Drainability	E. C., Novak, Jr.
806	Environmental Geologic Study of the Proposed US 131 Corridor	F. J. Chenier
807	Expansion Anchors for Use as Lane ties	M. A. Chiunti
808	Snow Plow Damage of "Transflex" BridgeSeals	L. T. Oehler
809	Skid Testing of Seal Coats	L. T. Oehler
810	Environmental Geologic Study of the Proposed I 69 Alternate Routes	F. G. Belobraidich

811	Study of Aggregate Mix Requirements <u>(After submitting the initial draft of this report, it was decided to expand the project. A new report will be submitted at a later date.)</u>	M. G. Brown
812	Evaluation of Manhole Step (Giant Step No. 170), Construction Products Corp.	L. T. Oehler
813	Evaluation of Thermoplastic Pavement Markings Applied in the Lansing Area in 1968 and 1969	A. J. Permoda A. R. Gabel
814	Statewide Determination of Highway Loadings and Conversion to 18-Kip single Axle Load Equivalence	F. Copple
815	Hydroplaning on Highways	F. Copple
816	Effect of Temperature on the Elastic Response of Asphalt Treated Base Materials	I. AlNouri
817	Field Evaluation of Acid-Treated Open Hearth Slag Base Course (I 75 - Dearborn St. Interchange)	J. H. DeFoe R. C. Mainfort
818	Cyclac Plastic for Non-Reflectorized Signs	J. T. Ellis
819	Kralastic Plastic for Non-Reflectorized Signs	J. T. Ellis
820	The Environmental Geology of Proposed I 69	G. R. foster
821	Development of Louvered Signs to Reduce Wind Load	Michigan State Highway Commission
822	Demonstration of Vermeer Slaw (I 75 Genessee County)	L. T. Oehler
823	Federal and State Air Quality Environmental Protection Requirements and Some Alternative Plans to Meet Them	M. H. Janson W. L. Frederick
824	Corrugated Metal Pipe Culvert Disintegration, I 75 Mackinac County	J. T. Ellis
825	Expansion Anchors for Lane Ties	C. J. Arnold
826	Investigation of Traffic-Induced Vibration at McDade Inc., Real Estate Office in Dearborn	C. J. Arnold
827	Investigation of Low and Erratic Concrete Pavement Core Compressive Strength	H. L. Patterson M. G. Brown
828	Pollution of Michigan Urban Atmospheres by Highway Generated Noise	Michigan State Highway Commission
829	Alleged Damage to the Residence of G. MvAvon Due to Traffic Induced Vibrations	I. AlNouri C. J. Arnold
830	Air Quality Section for the Final Environmental Impact Statement for Proposed I 696	Michigan State Highway Commission
831	Summaries of Michigan Pavement Skid Resistance, 1971 Test Program	Michigan State Highway Commission
832	Environmental Geologic Impact Statement	F. G. Belobraidich

833	Cambridge Green Subdivision Noise Impact Study	M. N. Clyde
834	The Effects of Pavement Drainage Cratings on Bicycle Control for Narrow-Tired Bicycles	L. T. Oehler
835	Glacial Aggregate Evaluation in Kalamazoo County and Vicinity Michigan	B. P. Shah
836	Evaluation of Catch Basin Grates	C. J. Arnold L. T. Oehler
837	Frost Insulating Properties of Asphalt-Treated Based	R. C. Mainfort E. C. Novak, Jr.
838	Joint Repair by Epoxy Injection	J. E. Simonsen
839	Laboratory Evaluation of Type 190 Preformed Neoprene Joint Seal and Lubricant Adhesives in Skewed Bridge Joints	F. J. Bashore
840	Air Quality Environmental Impact Statement for Proposed I 275 from I 94 to M 153	Michigan State Highway Commission
841	Further Noise Predictions for I 696 EIS	L. T. Oehler
842	Experimental Concrete Pavement Ramps Construction Report	C. J. Arnold M. A. Chiunti
843	Semicircular Galvanized Steel Underdrain Pipe ("Full Flo Subdrain")	J. D. Culp
844	Experimental concrete and Bituminous Shoulder Construction Report	C. J. Arnold M. A. Chiunti
845	Galvanized Steel Reinforced Concrete Bridge Decks	C. J. Arnold
846	1972 Performance Tests of "Fast-Dry" White and Yellow Pavement Marking Paints	A. J. Permoda
847	Testing and Evaluation of Corrugated Polyethylene Plastic Drainage Tubing	J. D. Culp
848	Corrosion of Aluminum Posts for Bridge Railings	C. J. Arnold M. A. Chiunti
849	Air Quality Section for the Final Environmental Impact Statement for Proposed I 475	Michigan State Highway Commission
850	Preliminary Study of the constant Dry Weight (No Weighing) Method of Compaction Control	J. H. DeFoe E. C. Novak, Jr.
851	Further Noise Predictions for I 696 EIS-II	L. T. Oehler
852	Experimental Steel-Fiber-Reinforced Concrete Overlay	C. J. Arnold M. G. Brown
853	Simplified Technique for Traffic Noise Level Estimation	G. H. Grove
854	Water Quality Investigation on Griffin Lake at the Interchange of M 78 and M 15	M. N. Clyde

855	Random Observations on Performance of Highway Striping in Lansing During 1972-73 Winter	L. T. Oehler
856	PSI Values for I 94 from Telegraph to Wyoming	M. N. Clyde
857	Bulkhead Joints for Concrete Base Shoulders	M. A. Chiunti
858	Dynamic Load Aspects of Truck Size and Weight	J. R. Darlington
859	Preventive Maintenance of Concrete Pavements	J. E. Simonsen
860	1974 National Transportation Study	M. N. Clyde
861	An Evaluation of Mastic-Type Paving Mixtures for Resurfacing a Roadway and a Bridge Deck	F. Copple
862	Air Quality Section for the Final Environmental Impact Statement for Proposed I 475	Michigan State Highway Commission
863	Summary of Roadway Luminaire Test Results (1971-72)	G. M. Smith
864	Rest Area Simulation Model	L. E. DeFrain
865	M 99 Logan Street, City of Lansing, Noise Study	M. N. Clyde
866	Failure of Preformed Guy-Grip Dead-Ends Used for Suspending Steel Cable from Poles	M. N. Clyde
867	Pull-Out Test Results of Hilti Fastening Systems	M. A. Chiunti
868	“Resil-a-Post” Flexible Traffic Guide Post	F. J. Bashore
869	Joint Failures on I 75 North of Flint	L. T. Oehler
870	Evaluation of Liquid chemicals for Preventing Ice Formation on Highway Bridge Decks	J. H. DeFoe
871	Experimental Patching Concrete Field Application on Test Bridge S01 of 33035 A (WB M 36 Over US 127)	H. L. Patterson
872	Evaluation of Six commercial Fast-Setting Hydraulic Patching Mortars, a Latex Bonding Agent, and an Epoxy Emulsion Admixture	W. K. Kruger H. L. Patterson
873	Reflectorization of Fluorescent Flagman Vests	M. H. Janson G. M. Smith
874	Noise Study for the Final Environmental Impact Statement for Proposed I 475	Michigan State Highway Commission
875	Bridge Deck construction	C. J. Arnold
876	Movement Study of Bridge Piers	C. J. Arnold M. A. Chiunti
877	“Quaker-Klat” Black Bituminous Coating (Quaker State Oil Co.)	A. J. Permoda
878	Steel-Fiber-Reinforced Concrete Overlay	C. J. Arnold
879	Construction and Impact Testing of a Short Section of Experimental Concrete Glare Screen	C. J. Arnold M. A. Chiunti

880	Air Quality Section for the Final Environmental Impact Statement for Proposed M 99	Michigan State Highway Commission
881	Corrosion Resistance of Dowel Bars (Organic Coatings)	A. R. Gabel A. J. Permoda
882	Air Quality Section for the Final Environmental Impact Statement for Proposed Northwestern Highway	Michigan State Highway Commission
883	Summaries of Michigan Pavement Skid Resistance, 1972 Test Program	Michigan State Highway Commission
884	Feasibility of Hearth Slag for Bases	J. H. DeFoe
885	A Hot-Mix Asphalt Compaction Demonstration Experiment Comparing Vibratory and Conventional Rollers	C. A. Zapata
886	Air Quality Section for the Draft Environmental Impact Statement for Proposed I 96	MSHC
887	Annual Studded Tire Survey, Winter 1972-1973	R. L. Felter P. M. Schafer
888	Current Research Laboratory Program	L. T. Oehler
889	Investigation of Narrow Width Reinforcing Mats and Longer Slabs with Slip-Form Paving	J. E. Simonsen
890	Traffic Noise Level Predictor Computer Program	G. H. Grove
891	Aluminum-Coated Chain Link Fence	F. J. Bashore
892	Automatic Weighting of Vehicles in Motion and Collection of Traffic Data by Electronic Methods	MSHC
893	Drainability Analysis of Samples Submitted to the Porous Materials Specification committee by District Soils Engineers	E. C. Novak, Jr.
894	Investigation of Chemical and Physical Properties of Structural Steel, B03 of 51021-Cooley Bridge, M 55 over Pine River	K. A. Allemeier
895	Faulting of Short Slab concrete Pavements	C. J. Arnold
896	Investigation of Structural Tees. Galvanized in Sections, in a Truss-Type Pedestrian Bridge	A. J. Permoda
897	Legibility Distance of I 69 Reflector Button Legend Signs	G. M. Smith
898	Experimental Concrete and Bituminous Shoulders (Progress Report)	M. A. Chiunti
899R	Air Quality Report for US 31, Berrien County Report Revised January 1979 See 1979 Book for Revisions (Report No. R-1105)	MSHC
900	1973 Performance Tests of "Fast-Dry" White and Yellow Pavement Marking Paints	A. J. Permoda
901	Final Report on Evaluation of a Rubber Pad Railroad Crossing	J. E. Simonsen
902	Air Quality Report for I 75 - Zilwaukee Bridge	MSHD

903	Study of Glare Due to Parking Lot Lighting on US 127 near M 36, Mason	L. T. Oehler
904	Dow Two-Component Self Leveling Urethane Joint Sealant	F. J. Bashore A. W. Price
905	General Evaluation of Current Concrete Pavement Performance in Michigan, Jointed concrete Pavement Deterioration considered as a Probability Process	L. F. Holbrook Wen-Hou Kuo
906	Air Quality Report for US 24 (Telegraph Rd.), Oakland County	MSHC
907	Survey and Recommendations Concerning Aluminum Anchor Bolts on Bridge Rails	C. J. Arnold M. A. Chiunti
908	Bulkhead Joints for Concrete Base Shoulders (Progress Report)	C. J. Arnold M. A. Chiunti
909	M 51 Relocation - Berrien County	MSHC
910	Evaluation of Load Transfer Assemblies (Progress Report)	J. E. Simonsen
911	Experimental Joint Spacing Project (Construction Report)	M. A. Chiunti
912	Specifications for Polyvinylchloride Rumble Strips	L. T. Oehler
913	Field Inspections of One and Two-Stage Joint Sawing Procedures	F. J. Bashore
914	An Investigation of the Definition of Frost Heave Textured Material	E. C. Novak, Jr.
915R	Noise Study and Analysis, M 51 City of Niles - Berrien County, Main St. To Pucker St.	G. H. Grove
916	Protective Coatings for Highway Metals	A. J. Permoda A. R. Gabel
917	"StriCel" Highway Stripe Remover from Atlas International, Inc. Of Colorado	A. R. Gabel
918	Noise Study and Analysis, City of Pontiac - Oakland County, East Boulevard Extension, South Boulevard to Woodward Ave.	M. E. Scarlata
919	Cellex Cellular Concrete for Precast Noise Barriers	K. H. Laaninen
920	Air Quality Report for Proposed M 29, City of Algonac	MSHC
921R	Air Quality Report for M 3 (US 25 BR), Macomb County	MSHC
922	Noise Study and Analysis, US 131 Big Rapids Northerly to Ashton	M. E. Scarlata
923	In-Place Stabilization of Soil-Aggregate Mixtures with Bituminous Materials (Progress Report)	J. H. DeFoe
924	Evaluation of Resincore Particle Board as a Sign Backing Material	J. T. Ellis
925	Experimental Concrete pavement Ramps (Progress Report)	M. A. Chiunti
926	Evaluation of Riding Quality of Sandstone Hot Bituminous Mix	L. T. Oehler
927	Noise Study and Analysis, Cities of Allen Park, Dearborn Heights, and Taylor - Wayne County, Reconstruction of the I 94 and M 39 Interchange	M. E. Scarlata
928	Lights and Lighting for Hazard Warning and Delineation	G. M. Smith M. H. Janson

929	Air quality Report for Proposed I 69 from I 96 to US 27	MSHC
930	Study of Bonding Sidewalk and Parapet Concrete to Modified (WaterSoluble) Linseed Oil Cured Bridge Deck Pours	S. M. Foster
931	Route Location Noise Study and Analysis, M 275 (I 96 and I 696 Northerly to M 59)	M. E. Scarlata
932	Air quality Report for I 69 From US 27 to Morrice, Clinton and Shiawassee Counties	MSHC
933	Air Quality Report for US 31 Berrien County North from Indiana Line	MSHC
934	Annual Studded Tire Survey, Winter 1973-1974	R. L. Felter P. M. Schafer
935	Steel Strength Determination - Six Bridges	M. A. Chiunti
936	Evaluation of Liquid Ice Control Chemicals Applied to Bridge Decks (Progress Report)	J. H. DeFoe
937	Air Quality Report for M 275 From I 96 and I 696 to M 59	MSHC
938	Field Inspection of Telespar Sign Posts, "Watch for Ice on Bridge," Type	A. J. Permoda
939	The Housel Model for Slope Stability Analysis	J. M. Portigo
940	"King-Strip" Highway Striping Remover from Pert Products Company of Detroit	A. J. Permoda A. R. Gabel
941	Noise Study and Analysis, City of Rockwood - Wayne County Reconstruction of the I 75 and North Huron River Drive Interchange	M. E. Scarlata
942	Traffic Noise Level Predictor Computer Program	G. H. Grove
943	Experimental concrete and Bituminous Shoulders	M. A. Chiunti K. S. Bancroft
944	Summaries of Michigan Pavement Skid Resistance, 1973 Test Program	MSHC
945	Evaluation of Salvaged Base Course Materials	J. H. DeFoe
946	Simplified Technique for Traffic Noise Level Estimation	G. H. Grove M. E. Scarlata
947	Investigation of Traffic-Induced Vibrations at the Mary Roy Residence, Marine City	M. A. Davison
948	Noise Study and Analysis, M 51 City of Niles - Berrien County, Main Street to Pucker Street	M. E. Scarlata
949	Pressure-Induced Failures in Jointed Concrete Pavements and a Machine for Installation of Pressure Relief Joints	C. J. Arnold
950	Upson Laminated cellulose Fiber Boards for Use as Road-Side Sign Panels	M. A. Chiunti
951	Experimental Shoring to Reduce Vibration During Bridge Deck Widening (progress Report: 9-year performance)	C. J. Arnold M. A. Chiunti K. S. Bancroft

952	Air Quality Report for M 20, Lee Township, Midland county to Indian St. (US 10 BR), City of Midland	MSHC
953	An Overview of the Roadway Surface-Tire Pattern Interaction Noise System	G. H.Grove
954	Guardrail Wood Post Deterioration	A. R. Gabel J. L. McKenna
955	Investigation of Traffic-Induced Vibrations at 3018 Woodruff St., Lansing	C. J. Arnold M. A. Davidson
956	Laboratory Evaluation of “Elastizell” as a Lightweight Fill	R. C. Mainfort
957	1974 Performance Tests of “Fast-Dry” White and Yellow Pavement Marking Paints	A. J. Permoda
958	Priority Rating for Replacement of Aluminum-Post Bridge Rail	C. J. Arnold M. A. Chiunti
959	Air quality Report for M 21 in Lapeer and St. Clair Counties	MSHC
960	Response to I 75 City of Taylor Noise Complaint	K. A. Allemeier
961	Cement Content of Low Strength, Type 1 P, Concrete	C. V. Iansiti H. L. Patterson
962	Transverse Cracking Reflected Through Asphaltic Concrete Resurfacing	C. A. Zapata
963	Development of Soil-Support Values and Coefficients of Relative Strength of Michigan Highway Support Materials	R. C. Mainfort
964	Michigan’s Accident Experience with Glass Bead License Plate Reflectorization	L. F. Holbrook
965	Air Quality Report for I 69, Charlotte to I 96, Eaton County	MSHC
966R	Noise Analysis and Noise Abatement Proposals, Interstate Highway I 696 from Lahser Rd. Easterly to I 75, Oakland County	G. H. Grove
967	Evaluation of Various Bridge Deck Joint Sealing Systems	F. J. Bashore
968	Development of Procedures for Replacing Joints in Concrete Pavement	J. E. Simonsen
969	Air Quality Report for the I 94 and M 39 Interchange	MSHC
969R	Air Quality Report for the I 94 and M 39 Interchange	MSHC
970	An Evaluation of Pavement Wear Caused by Perma-T-Gripper Tire Studs	F. Copple
971	Laboratory Calibration of Nuclear Soil Density-Moisture Gages	J. H. DeFoe
972	Reinforcement of Asphaltic Concrete Overlays with Petromat Fabric	C. A. Zapata L. M. Bateman
973	“Pozicon” Fly-Ash Pavement Concrete - Development Work (Second Progress Report)	H. L. Patterson
974	Experimental Field Application of “Pozicon” Fly Ash in the Median Barrier of I 75 Near the City of Flint	H. J. Patterson
975	Evaluation of a Model for Predicting Transverse Cracking of Flexible Pavement	E. C. Novak, Jr.

976	Corrosion Performance of Aluminum Culverts	J. T. Ellis
977	Design of Binder Course Bituminous Concrete Pavement Mixtures	E. C. Novak, Jr.
978	Air Quality Report for M 59 from US 23 to Proposed M 275 in Livingston and Oakland Counties	MSHC
979	Experimental Installation of Chrome-Alloy Steel Dowels	J. E. Simonsen
980	Trial Installation of Rumble Strips in Asphalt Shoulders	J. E. Simonsen
981	Evaluation of “Wej-It,” and “Taper-Bolt” Expansion Anchors	M. A. Chiunti
982	Summaries of Michigan Pavement Skid Resistance, 1974 Test Program	MSHC
983	Security Steel Insert and Deflected Locknuts	M. A. Chiunti
984	Application for Federal Financial Participation in Traffic Noise Barrier Construction Along a Selected Segment of I 75 in Southeastern Michigan	MSHC
985	“Improved Alert” Reflective Liquid (Cataphote Corp.) and “B-I-P” Reflective Liquid from Flex-O-Lite Corp.	A. R. Gabel
986	Annual Report of Activities of the Michigan Department of State Highways and Transportation Research Laboratory	MSHC
987	Recommended Capacities for Expansion Anchor Lane Ties, and Evaluation of Frazer and Jones Concrete Expansion Anchors	M. A. Chiunti
988	Reflectorized License Plates and Night Accident Reduction	L. F. Holbrook
989	Feasibility Study to convert Regular-Dry Traffic Paint Applicator to fast-Dry	A. J. Permoda
990	Fiberglass Reinforced Pultrusions	M. A. Chiunti
991	Subbase Drainage Criteria	F. T. Hsia
992	Corridor Air Quality Report for Proposed M-59 - Utica to I 94	MSHC
993	Strength Comparison Between Water Reducer Concretes of Portland-Pozzolan and Type 1A Cements	H. L. Patterson
994	Accident Rates and Surface Properties—An Investigation of Relationships	L. R. Holbrook
995	A Literature Survey of Median Barriers and Highway Safety	L. F. Holbrook Wen Hou Kuo
996	Comparative Performance of Contraction Joints on I 75, Saginaw and Genesee Counties	F. Copple
997	Investigation of Straw Fire Damage to CRCP, I 96 Near Novi (I 63191-03586A)	W. K. Kruger
998	Petrographic Analysis of Coarse Aggregate: Superior Sand and Gravel Pit, Pit No. 31-45 (Testing Laboratory Sample 75 A-152)	R. W. Muethel
999	CMI Autograde Pavement Profiler	F. Copple
1000	Petrographic Analysis of Coarse Aggregate: Gogebic Sand and Gravel Co., Pit No. 27-55 (Testing Laboratory Sample 75 A-203)	R. W. Muethel

1001	Development and Evaluation of a Field Drainability Test Method	E. C. Novak, Jr.
1002	Bulkhead Joints for concrete Base Shoulders (Final Report)	M. A. Chiunti
1003	Petrographic Analysis of Coarse Aggregate: Wallace Stone Co., Pit No. 34-4 (Testing laboratory Sample 75 A-2501)	R. W. Muethel
1004	Petrographic Analysis of Coarse Aggregate: Wallace Stone co., Pit No. 32-4 (Testing Laboratory Sample 75 A-2500)	R. W. Muethel
1005	Evaluation of Four Organic Resin Binder Systems	H. L. Patterson
1006	Petrographic Analysis of Coarse Aggregate: Caspian Lumber Co. #2, Pit No. 36-40 (Testing Laboratory Sample 75 A-291)	R. W. Muethel
1007	Petrographic Analysis of Coarse Aggregate: construction Aggregates Corp., Pit No. 70-9 (Testing Laboratory Sample 75 A-2162)	R. W. Muethel
1008	A review of Bridge Deck Problems, and a Final Report on the Performance of Several Berrien County Structures That Were Widened Under Traffic	C. J. Arnold M. A. Chiunti K. S. Bancroft
1009	1975 Performance Tests of "Fast-Dry" White and Yellow pavement Marking Paints	A. J. Permoda
1010	Petrographic Analysis of Coarse Aggregate: Lindberg Pit No. 22-29 (Testing Laboratory Sample 75 A-410)	R. W. Muethel
1011	Fracture Toughness and Fatigue Properties of Steel Plate Butt Joints Welded by Submerged Arc and Electroslag Welding Procedures	J. D. Culp
1012	Bridge Deck Repair and Development of Procedures for Epoxy Injection Grouting of Bridge Deck Delaminations	H. L. Patterson
1013	An Inventory of Traffic Noise Levels Along Limited Access Freeways in Michigan	G. H. Grove M. E. Scarlata
1013A	An Inventory of Traffic Noise Levels Along Limited Access Freeways in Michigan (Appendices C and D)	G. H. Grove M. E. Scarlata
1014	High-Index, Wet-Performance Glass Beads for Pavement Markings From Potter Brothers	A. J. Permoda
1015	"Snow-Glow" Glass Beads for Pavement markings From Snowfast Company of Italy	A. J. Permoda
1016	Experimental Short Slab Pavements (Construction Report)	M. A. Chiunti
1017	Application for Federal Financial Participation in Traffic Noise Barrier Construction Along a Selected Segment of I 75 in the City of Taylor in Southeastern Michigan	MSHC
1018	Steel Sampling, 76 Structures	C. J. Arnold
1019	Expansion Anchor Evaluation, Hilti HDI Anchors	C. J. Arnold
1020	Development of Procedures for Replacing Joints in Concrete Pavement (Final Report)	J. E. Simonsen
1021	Reflectorized Flagman Vests	G. M. Smith M. H. Janson

1022	Effects of Deicing Salts on the Chloride Levels in Water and Soil Adjacent to Roadways	R. W. Muethel
1023	Air Quality Report for Davison Freeway, City of Highland Park, Wayne County	MSHC
1024	Aggregate Gradation Quality Control	Wen Hou Kuo
1025	Thickness Equivalencies for Asphalt-Treated and Untreated Aggregate Base Course Layers	F. T. Hsia
1026	Air Quality Report for M 99 in Ingham and Clinton Counties	MSHC
1026R	Air Quality Report for M 99 In Ingham and Clinton Counties	MSHC
1027	Progress Report on the Evaluation of Various Types of Railroad Crossings	J. E. Simonsen
1028	Study of Deck Concrete in So3 of 64014, US 31 under Winston Rd. West of Rothbury	M. G. Brown
1029	Steel Evaluation of Vehicle-Damaged Structure (S08 of 39022), 38 th St. over I 94 Near Kalamazoo	J. D. Culp
1030	Performance Evaluation of Trinidad Asphalt Cement for Bituminous Concrete Resurfacing	C. A. Zapata
1031	Air Quality Report for the Reconstruction of I 94 BL Southwest of Battle Creek, Calhoun County	MSHC
1032	Petrographic Analysis of Coarse Aggregate: Gaspardo Pit No. 31-65 (Testing Laboratory Sample 75 A-1121)	R. W. Muethel
1033	Galvanized Steel Reinforced Concrete Bridge Decks (Progress Report)	C. J. Arnold
1034	Control and Prevention of Deterioration of Concrete Bridge Decks	M. G. Brown
1035	Experimental Concrete and Bituminous Shoulders (Progress Report)	K. S. Bancroft
1036	Petrographic Analysis of Coarse Aggregate: Boyd Pit No. 54-54 (Testing Laboratory Sample 75 A-1625)	R. W. Muethel
1037	Air Quality Report for US 12 in Dearborn, Wayne County	MSHC
1037R	Air Quality Report for US 12, City of Dearborn, Wayne County	None Listed
1038	Determination and Improvement of Relevant Pavement Skid Coefficients	F. Copple P. T. Luce
1039	Concrete Arch Rib Condition Survey, M 99 (Logan St.) Over the GRW RR and the Grand River, City of Lansing (X01 of 33011)	H. L. Patterson
1040	Statistical Analysis of Aggregate Base Course Inspection Using an End Result Aggregate Specification (Sampling, Testing and Acceptance Procedures)	Wen-Hou Kuo
1041	Drainage and Foundation Studies for an Experimental Short Slab Pavement	T. M. Green E. C. Novak, Jr.
1042	Annual Report of Activities of the Michigan Department of State Highways and Transportation Research Laboratory	MSHC
1043	Edge Marking Criteria from contrast Ratios	G. M. Smith

1044	Construction of a Cold-Mix Emulsion Black Base	G. F. Sweeney
1045	Effectiveness of the Experimental Wooden Noise Wall, Interstate Highway I 75, City of Allen Park, Michigan	G. H. Grove
1046	Comparison Study on the Performance of Bituminous Stabilized Bases (M 66 and M 20)	F. T. Hsia
1047	Brightness Study and Specification Compliance Survey of Arrow-Bar Traffic Control Signs	J. D. Truax M. E. Scarlata
1048	Evaluation of Cold-Mix Emulsion Black Base (M 150 and Auburn Road, Oakland County)	J. D. DeFoe
1049	Summaries of Michigan Pavement Skid Resistance, 1975 Test Program, MDSHT Report No. 249	MSHC
1050	Lincore Ni2 Low Alloy Submerged Arc Welding Wire,	J. D. Culp
1051	Mixed-in-Place Stabilization of Highway Base Aggregates and Pulverized Bituminous Surfacing Using Asphalt Stabilizers, Final Report	J. H. DeFoe
1052	Application for Federal Financial Participation in Traffic Noise Barrier Construction Along Selected Segments of I 275 in Southeastern Michigan	MSHC
1053	Experimental Lightweight Fill, Construction Report	E. C. Novak, Jr.
1054	Petrographic Analysis of Coarse Aggregate: American Aggregates Corp. Milford Pit. No. 63-97	R. W. Muethel
1055	Petrographic Analysis of coarse Aggregate: Mickelson No. 3 Pit No. 63-88	R. W. Muethel
1056	Petrographic Analysis of Coarse Aggregate: Wallace Stone Co. Pit No. 32-4	R. W. Muethel
1057	Evaluation of Five Commercial Fast-Setting Patching Mortars	K. H. Laaninen
1058	Instruction Manual for Bridge Deck Delamination Detector	MSHC
1059	Petrographic Analysis of Analysis of Coarse Aggregate: Emmons Pit No. 54-22	R. W. Muethel
1060	Petrographic Analysis of coarse Aggregate: Glancy Pit No. 62-3	R. W. Muethel
1061	Evaluation of Prewetted Salt for Ice Control, Final Report	J. H. DeFoe
1062	Interim Report on Epoxy Injection Grouting Experimental Repair Procedure	H. L. Patterson
1063	Preventive Maintenance of Concrete Pavement - US 127, Progress Report	J. E. Simonsen
1064	Elastizell Concrete Lightweight fill Construction (Pine River Bridge, St. Clair)	E. C. Novak, Jr.
1065	Maintenance of Neoprene Sealed Concrete Pavements, first Progress Report	J. E. Simonsen F. J. Bashore A. W. Price

1066	Raised Pavement Markers	M. H. Janson G. M. Smith J. D. Truax M. J. Tiedt
1067	Epoxy Resin Coated Reinforcing Steel, Construction and Progress Report	C. J. Arnold
1068	An Accident Frequency Prediction Model for Selected State Trunkline Classifications	Wen-Hou Kuo
1069	Fibco 'Mod II' Portable Truck Barrier	J. F. Caudell
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1071	Petrographic Analysis of Coarse Aggregate: Pickitt No. 1 Pit No. 34-26	R. W. Muethel
1072	A Study of Supplemental Drainage Methods for Preventing Frost Heave in Full Depth Concrete Shoulders	E. C. Novak, Jr.
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1074	Air Quality Report for M 153 in the Cities of Westland and Garden City, Wayne County	MSHC
1075	A Validation of the NCHRP 117/144 Traffic Noise Level Predictor Model for Low Density, Close Distance Traffic on I 696 Between I 75 and I 94	G. H. Grove
1076	Evaluation of Nuclear Methods for Measuring Asphalt Content of Bituminous Mixtures	J. H. DeFoe
1077	Low Slump Portland Cement Concrete Bridge Deck Overlays	K. H. Laaninen
1078	Evaluation of Sulfur-Asphalt Binder for Bituminous Resurfacing Mixtures, Progress Report	J. H. DeFoe
1079	Second Progress Report on the Evaluation of Various Types of Railroad Crossings	J. E. Simonsen
1080	Petrographic Analysis of Coarse Aggregate: Champion , Inc., Moon Lake Pit No. 22-4	R. W. Muethel
1081	A Report on the Cause of Deterioration of Sections of Flexible I 94 Pavement	E. C. Novak, Jr.
1082	Annual Report of Activities of the Michigan Department of State Highways and Transportation Research Laboratory	MSHC
1083	Petrographic Analysis of Coarse Aggregate: Arthur #2 Pit No. 72-5	R. W. Muethel
1084	Petrographic Analysis of Coarse Aggregate: Champion, Inc. Dishneau Pit No. 52-1	R. W. Muethel
1085	Summaries of Michigan Pavement Skid Resistance, 1976 Test Program	MSHC
1086	Petrographic Analysis of Coarse Aggregate: U. S. forest Service Pit No. 27-68	R. W. Muethel
1087	Evaluation of Expansion Anchors, Self-Drilling, Torque Type, and Stud-Type	K. S. Bancroft

1088	Use of Recycled Asphalt Surface Material in the construction of a Bituminous Stabilized Base, I 75, Cheboygan County, Construction Report	J. H. DeFoe G. F. Sweeney
1089	Evaluation of Monoslabs for Paving of Ditches and Service Drives	S. L. Purdy
1090	Noise Study and Analysis, Cities of Allen park, Dearborn Heights, and Taylor, Wayne County, Reconstruction of the I 94 and M 39 Interchange (Addendum)	MSHC
1091	A Computer Program for Computing Probabilities and Generating Random Variates for the Gamma, Normal, and Chi-Square Distributions and Its Applications to Highway Technology	W. H. Kuo
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1093	Petrographic Analysis of Coarse Aggregate: Paquin Gravel Co. #2, Pit No. 21-19	R. W. Muethel
1094	A Statistical Analysis of Potential Relationships Between Selected concrete and Aggregate Properties and Concrete Pavement Performance	W. H. Kuo
1095	Air Quality Report for Proposed Reconstruction of Interchanges at I 94 and Meriman Road, and I 94 and Middle Belt Road	MSHC
1096	Condition of "Elastizell" Lightweight Concrete Backfills After One Year in Place, First Progress Report	T. M. Green E. C. Novak, Jr.
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1098	The Michigan Department of Transportation Circular Wear Track-Results of Preliminary Aggregate Polishing Tests, first Progress Report	R. W. Muethel
1099	Air Quality Measurements of Movable Asphalt Plants for Recycling Paving Asphalt	J. T. Ellis
1100	Salt Degradation Study	L. T. Oehler
1101	Investigation of Parking Ramp Leakage Through the Upper Level Slab at the Capitol Complex	H. L. Patterson
1102	Traffic Signal Dimming Methods	J. D. Truax G. M. Smith M. H. Janson
1103	Inspection of Low slump and Latex Modified Overlays on I 94 in the Detroit Area	M. G. Brown
1104	Air Quality Report for M 51 Relocation - Berrien County	None Listed
1105	Air Quality Report for US 31, Berrien County	None Listed
1106	A Survey of Median Barriers and Highway Safety	L. F. Holbrook W. H. Kuo
1107	Evaluation of Sodium Chloride for Stabilizing an Aggregate Base Course (M 28 East of Bruce Crossing, Project No. 00955A)	R. C. Mainfort
1108	Stress Measurements and Load Distribution on Selected Portions of the Mackinac Bridge	C. J. Arnold W. D. Bullen

1109	Summaries of Michigan Pavement Friction Measurements, 1977 Test Program	P. M. Schafer
1110	Astro Optics Delineators	M. H. Janson
1111	NFS Industries Delineators	M. H. Janson
1112	Annual Report of Activities of the Michigan Department of Transportation Research Laboratory	None Listed
1113	Evaluation of Various Types of Railroad crossings, Third Progress Report	J. E. Simonsen
1114	A Study to Monitor the Deicing Chemical Pollution Prevention System at the Reed City MDOT Maintenance Garage, Preliminary Report	R. W. Muethel
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1117	Effectiveness of Infrared Joint Heaters for Bituminous Pavements	J. H. DeFoe
1118	A Probability Model for Determining the Safety Benefits of Median Barrier Installations	W. H. Kuo
1119	Development of Base Layer Thickness Equivalency	S. S. Kuo
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1121	Evaluation of Various Bridge Deck Joint Sealing Systems, Final Report	F. J. Bashore D. E. Branch A. W. Price
1122	Effectiveness of Neoprene Seals in Preventing Concrete Pavement Contraction Joint Deterioration	F. J. Bashore A. W. Price
1123	Alternate, More Economical Repainting Systems for Bridge Structural Steel, First Progress Report	F. J. Bashore A. J. Permoda
1124	A Study to Evaluate the Performance of Bituminous Wearing Course Containing Sandy Limestone, A preliminary Report	R. W. Muethel
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1127	Texturing Existing Concrete Pavement	P. T. Luce
1128	Investigation of Pavement Heaving on Bridge Approaches, I 275 (Control Section I 58171-06463A)	E. C. Novak, Jr.
1129	Evaluation of Sulfur-Asphalt Binder Bituminous Paving Mixtures, Progress Report	J. H. DeFoe
1130	Application for Federal Financial Participation in Traffic Noise Barrier Construction: The Michigan Statewide Traffic Noise Level Inventory - Group 1	MTC
1131	Stimsonite Delineator	G. M. Smith

1132	The Michigan Department of Transportation Circular Wear Track—Results of Supplemental Aggregate Polishing Tests (Interim Progress Report)	R. W. Muethel
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1134	Evaluation of Sprinkle Treatment for Improving Skid Resistance of Asphalt Surfaces (Progress Report)	J. H. DeFoe
1135	Reflectorized Traffic Regulator Vests (Progress Report)	M. H. Janson G. M. Smith J. D. Truax
1136	Petrographic Analysis of Coarse Aggregate: County Road Commission No. 3, Pit No. 17-62	R. W. Muethel
1137	Final Report on Joint Load Transfer Test Road to Evaluate Acme Load Transfer Assemblies, Plastic Coated Dowels and End-of-Pour Construction Joint Assemblies	J. E. Simonsen
1138	Experimental Evaluation of No-Discharge Recirculating Sewage System for Freeway Rest Areas (On Southbound I 275, North of Monroe)	J. W. Bastian G. Horton, Jr. C. A. Zapata
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1140	Summaries of Michigan Pavement Friction Measurements (1978 Test Program)	P. M. Schafer
1141	Preventive Maintenance of Concrete Pavements - US 27 (Final Report)	J. E. Simonsen
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1152	Base and Subbase properties Affecting Longitudinal Cracking of I 275	MTC

1153	Air Quality report for M 59 in Macomb County	MTC
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1158	The Relationship of Aggregate Durability to Concrete Pavement Performance, and the Associated Effects of Base Drainability	C. J. Arnold
1159	Petrographic Analysis of Coarse Aggregate: Salem Gr. Construction Co. Pit No. 63-56	R. W. Muethel
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1168	Field Evaluation of 3M and American Decal Reflective Signing Materials	J. D. Truax G. M. Smith M. H. Janson
1169	Jointed concrete Pavements-Design, performance and Repair	C. J. Arnold M. A. Chiunti K. S. Bancroft
1170	Summaries of Michigan Pavement Friction Measurements (1979 Test Program)	P. M. Schafer
1171	Concrete Pavement Performance Problems and Foundation Investigation of I 75 from the Ohio Line Northerly to the Huron River	J. E. Simonsen E. C. Novak, Jr.
1172	Petrographic Analysis of Coarse Aggregate Extracted from Bituminous Pavement Cores, M 55, Control Section No. 83021, 16035A	R. W. Muethel
1173	Surface Texture Measurements by the Putty Impression Method	C. A. Zapata
1174	Petrographic Analysis of Coarse Aggregate: Wallace Stone Co. Pit No. 32-4	R. W. Muethel
1175A	An Inventory of Traffic Noise Levels Along Limited Access Freeways in Michigan (Revision of Research Report R-1013A) (Appendices C and D)	M. E. Scarlata F. W. Harwood

1176	Petrographic Analysis of Crushed Stone Coarse Aggregate: Michigan Foundation Pit no. 82-6	R. W. Muethel
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1178	A Study of Seasonal Variation in Pavement Conditions by Means of Benkelman Beam Deflection and Frost Depth Measurements	R. C. Mainfort
1179	PCC Pavement Joint Restoration and Rehabilitation (Federal Highway Administration NEEP Project 27) (Construction Report)	J. E. Simonsen F. J. Bashore A. W. Price
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1181	Kiwalite Reflective Sheeting	M. H. Janson
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1183	Evaluation of 'Monoslabs' for Paving Ditches and Service Drives (Final Report)	J. H. DeFoe
1184	Implementation of Modern Statistical Methods for Improving the Accuracy of Highway Laboratory and Field Data, A Manual	W. H. Kuo
1185	A five-Year Evaluation of Preventive Maintenance Concepts on jointed Concrete Pavement (I 75 and I 696 in Oakland County)	C. J. Arnold M. A. Chiunti K. S. Bancroft
1186	Petrographic Analysis of Crushed Gravel Coarse Aggregate: Lindberg #3 Pit No. 52-9 and Co. road Comm. #12 Pit No. 52-67 Combined	R. W. Muethel
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1195	Evaluation of Wet Bottom Slag Bituminous Wearing Course, I 94 in Dearborn Heights, Final Report	G. M. Smith
1196	A Study to Monitor the Deicing Chemical Pollution Prevention System at the Reed City MDOT Maintenance Garage (will be published at a later date)	R. W. Muethel

1197	Static and Dynamic Properties of Anchor Bolts for Sign Supports	C. J. Arnold D. F. Johnson M. A. Chiunti
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1202	Evulation of Noise Barriers on I 275 for Structural and Vialual Intergrity (I 96/ I 275 Interchange, Northeast Quadrant and I 275 from Kippnick Rd. to Edw. Hines Dr.)	F. W. Harwood K. S. Bancroft
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1207	Petrographic Analysis of Coarse Aggregate: Wallace Stone Co. Pit No. 32-4	R. W. Muethel
1208	Degradation of Acid-Treated and Untreated Steel Furnace slag as an Open Graded Base Course for concrete Pavement	E. C. Novak, Jr.
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1234	Petrographic Analysis of coarse Aggregate: Michigan Stone Co. Pit No. 58-3	R. W. Muethel
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1237	Performance Evaluation of an Experimental Slurry Seal Emulsion as Filler of Deteriorated Longitudinal Joints in Concrete Pavement Being Prepared for Asphaltic Concrete Resurfacing	C. A. Zapata D. L. Andrews L. J. Pearson
1238	Comparison of Aggregate and Bituminous Treated Bases I 75 South of Grayling	R. C. Mainfort E. C. Novak, Jr.
1239	Evaluation of Sulphlex as a Binder in Pavement Resurfacing Mixtures, Final Report	J. H. DeFoe
1240	Petrographic Analysis of Dense-Graded Gravel Aggregate: Butkovich #2 Pit No. 49-74	R. W. Muethel
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1240(2)	Petrographic Analysis of Dense-Graded Gravel Aggregate: Ozanich Pit No. 49-97	R. W. Muethel

1240(3)	Petrographic Analysis of Dense-Graded Gravel Aggregate: Peters Pit No. 49-23	R. W. Muethel
1240(4)	Petrographic Analysis of Dense-Graded Gravel Aggregate: DNR Pit. No. 49-101	R. W. Muethel
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1243	Performance Evaluation of Plastic Fabrics as Overlay Reinforcement to Control Reflection Cracking	C. A. Zapata M. A. Chiunti L. J. Pearson
1244	Evaluation of Various types of Railroad Crossings - Seventh Progress Report	J. E. Simonsen
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1250	Monitoring Movement of the Zilwaukee Bridge	B. W. Ness
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1258	Evaluation of Calcium Magnesium Acetate (CMA) as a Deicing Agent: Corrosion Phase - A comparative Evaluation of the Effects of CMA vs. Salt (NaCl) on Highway Metals (3-Month Exposure)	R. McCrum J. W. Reincke J. W. Lay
1259	Improved Joint Sealant Materials for Concrete Pavements - Construction Report	J. W. Simonsen A. W. Price

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1277	Evaluation of Weathering Steel in a Detroit Freeway Environment - Second Eight-Year Study	G. L. Tinklenberg
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1300	Field Evaluation of Experimental Fabrics to Prevent Reflective Cracking in Bituminous Resurfacing, Final Report	V. T. Barnhart
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1303	Performance Evaluation of Concrete Pavement Overlays, Final Report	J. E. Simonsen A. W. Price
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1305	Evaluation of "Glasgrid" Bituminous Pavement Reinforcement	V. T. Barnhart

1306	Evaluation of MDOT Maintenance Division Seal Coat Projects - Final Report	V. T. Barnhart
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1309	An Evaluation of A Highway Advisory Radio System in Rest Areas, Highway I 94, Calhoun, Berrien and Van Buren Counties	L. DeFrain Janet Foran Fred Harwood MDOT / FHA
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1311	Freeze-Thaw Durability and Pore Characteristics of the Major Rock Constituents in Glacial Gravel	R. W. Muethel
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1314	Determination of the Slip Coefficient for Organic and Inorganic Primers in Bolted Connections	B. R. Lower
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1317	Alleged Damage to Susan Shilander's House Due to Traffic-Induced Vibrations	Enrique Quiroga
1318	The Lightweight Pavement Profile Instrument Development and Applications	J. R. Darlington
1319	Cantilever Sign Structure Inspection - Final Report	B. W. Ness Roger D. Till
1320	Evaluation of Simulated Bridge Deck Slabs Using Uncoated, Galvanized, and Epoxy Coated Reinforcing Steel	R. L. McCrum
1321	A Comparison of the Corrosion Performance of Uncoated, Galvanized, and Epoxy Coated Reinforcing Steel in Concrete Bridge Decks	R. L. McCrum R. R. Lower C. J. Arnold
1322	Effects of Deicing Salts on the Chloride Levels in Water and Soil Adjacent to Roadways (Interim Progress Report)	R. W. Muethel
1323	Development of an Instrumented Vehicle to Measure Roadway Curve and Grade	L. E. DeFrain R. D. Miller J. R. Darlington
1324	Evaluation of Experimental painting of A588 Steel Bridges	E. M. Phifer
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1331	Advance Warning Arrow Panel Evaluation	D. J. Rogers V. C. Andrews R. E. Nordlund
1332	Investigation of the Air Content of Plastic vs hardened Concrete	R. W. Muethel
1333	Construction of European Concrete Pavement on Northbound I 75 - Detroit, Michigan	Julie A. Weinfurter D. L. Smiley Roger D. Till
1334	Evualuation of Glasgrid Bituminous Pavement Reinforcement Mesh and A Bituminous Separation Course With and Without Latex	V. T. Barnhart
1335	Evaluation of Galvanized Pedestrian Bridges	D. C. Long E. M. Phifer
1336	Proof Load Test of R01 of 61131 M-37 over CSX Railroad, South of Bailey, Michigan	D. A. Juntunen, P.E. M. C. Isola, P.E.
1337	Michigan's SMA Project on M-52	E. Quiroga
1338	First Year Performance of the European Concrete Pavement on Northbound I 75 - Detroit, MI	D. Smiley
1339	The Distortion Induced Fatigue Cracking of Non-Redundant Structures REPORT NOT AVAILABLE - NO COPIES	L. J. Pearson
1340	Evaluation of the Uretex Method for Pavement Undersealing	W. H. Opland V. T. Barnhart
1341	Inspection and Performance Evaluation of Prefabricated Drainage System (PDS)	V. T. Barnhart
1342	Inspection and Repair of High-Mast Luminaires (HML)	M. C. Isola, P.E. R. L. McCrum
1343	Second Year Performance of The European Concrete Pavement on Northbound I-75 - Detroit, Michigan	D.L. Smiley
1344	Effect of Elevated Temperature on Fracture Critical Steel Members	Roger D. Till, P.E.
1345	Adoption of a Rapid Test for Determining Aggregate Durability in Portland Cement Concrete	U of M College of Engineering
1346	Cause of Concrete Pier Cap Deterioration on the I-75 Bridge over River Rouge (B01 of 82194) in Detroit, and Effectiveness of Repair Methods	U of M College of Engineering
1347	Load Testing of Bridges	Andrezzej S. Nowak Vijay K. Saraf

1348	Investigation of Condition of Prestressed Concrete Bridges in Michigan	Douglas Needham David Juntunen, P.E.
1349	Instruction of Concrete T-Beam Bridge During Deck Replacement Partello Road over I 94 Structure No. S04 of 1383	D. A. Juntunen P. W. Wessel
1350	Development of a Mobile System for Measuring Traffic Sign Retroreflectivity	R. E. Nordlund D. C. Long
1351	Investigation of Precast Deck Panels Used in Spread Box Beam Bridges	R. D. Till D. E. Needham
1352	Performance Evaluation of Isotropic Bridge Decks (Ontario Design) (Interim Report)	D. E. Needham
1353	Investigation of Calcium Hydroxide Depletion as a Cause of Concrete Pavement Deterioration	R. W. Muethel
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1355	Glued-On Fiber Reinforced Plastic (FRP) Sheets for Repair and Rehabilitation	Roger Till/ Uof M, Dept. of Civil & Environmental Engineering
1356	Bituminous Crack Filling Test Section on US-10 Near Evert	M. J. Eacker, P.E. A. R. Bennett
1357	comparison of Methods Used to Produce Hot-Dipped Galvanized W- Bram Guardrail	Roger Till Chris Davis
1358	Study of Michigan's Link Plate and Pin Assemblies	D. A. Juntunen, P.E.
1359	Bituminous Pavement Resurfacing at Snowmobile crossings First Year Review	T. D. Miller
1360	Polymers in Bituminous Mixtures - Phase II	M. C. Hawley L. T. Drzal G. Baladi Yong-Joon Lee
1361	Design Procedures for Concrete Anchors (Mechanical Expansion and Bonded Anchors)	D. Needham D. A. Juntunen, P.E.
1362	Development of a Guide for Evaluation of Existing Bridges Part I	Andrzej S. Nowak Sangjin Kim
1363	Test Method to Determine the Existence of Segregation in Bituminous Mixtures	T. F. Wolff, Ph.D., P.E. G. Y. Baladi, Ph.D., P.E. Chieh-Min Chang, M.S.
1364	Implementing Superpave in Michigan	Pavement Management Services
1365	Not Listed	

1366	Not Listed	
RC-1367	Monitoring Both Short & Long Term Mechanical Properties for Large Stone Mixtures	Neeraj Buch, Ph.D. MSU
R-1368	Comparison of Standard and Deep Bridge Deck Overlay Performances	Bryon D. Beck
1369	Bridge Engineering - Synthesis of Planning, Design, Construction, Maintenance, Materials and Research Not Published	
R-1370	Field Inspection of Traffic Signal Strain Poles	Dave Juntunen Mike Isola Peter Wesel
1371	<i>Monitoring Both Short & Long Term Mechanical Properties for Large Stone Mixtures</i> - Abstract showed report number as 1367; this one cancelled	
RC-1372	Repair and Strengthening of Reinforced Concrete Beams Using CFRP Laminates	T. Gillespie
R-1373	Prestressed Concrete Beam End Repair	D. Needham
R-1374	Study of Michigan's Continuous Span Variable Depth T-Beam Bridges	D. Juntunen
1375	University of Michigan - NO RECORD	
R-1376	Evaluation of Various Concrete Pavement Joint Sealants	M. Eacker A. Bennett
1377	MSU MRO Study - NO RECORD	
RC-1378	Development of A Guide for Evaluation of Existing Bridges Phase 2	Andrezej S. Nowalk Ahmet Sanli Junsik Eom
1379	MSU - NO RECORD	John Staton
R-1380	Prestressed Concrete Beam End Report	D. E. Needham
RC-1381	Cost Effectiveness OI: European Demonstration Project: I 75 Detroit	Neeraj Buch Richard Lyles Leonard Becker
RC-1382	Repair and Strengthening of Reinforced Concrete Beams Using CFRP Laminates	Maria del Mar Lopez Antonine Naaman
1383	MSU - NO RECORD	T. Hynes
R-1384	Electrochemical Chloride Extraction,	S. Kahl
1385	NO RECORD	J. Staton/MSU
RC-1386	Repair of Corrosion-Damaged Columns using FRP Wraps	R. Harichandran - MSU
R-1387	Whitetopping Project on M-46 between Carsonville and Port Sanilac	Mike Eacker
RC-1388	Load Test of the Bridge on Old US-27 over Holden Creek in Clinton County (B02 - 19031)	A. Nowak J. Eom M. Szerszen

RC-1389A	Development Of the Procedure for Efficient Evaluation of Bridge Decks	A. Nowak - UM M. Szerszen L. J. Kwasniewski
RC-1389B	Michigan Deck Evaluation Guide	A. Nowak - UM M. Szerszen D. Juntunen - MDOT
R-1390	Investigation of Pavement Problems on I-275 and on I-75 from the Ohio Line Northerly to the Huron River	Vern Barnhart
R-1391	Investigation of Box Beams Plaza Structures Z01, Z02, AND Z03 OF 63102 over I-696	Doug Needham R. Till
RC-1392	Non Metallic Reinforcement of Concrete Bridge Decks	P. Soroushian S. Ravanbakhsh - MSU
RC-1393	Verification of Girder Distribution Factors for Steel Girder Bridges	A. Nowak Junsik Eom - UM
R-1394	Evaluation of Minimum Surface Preparation Coatings for Bridge Painting	B. Beck
RC-1395	Evaluation of Alignment Tolerances for Dowel Bars and their Effects on Joint Performance	L. Khazanovich N. Buch A. Gotif - MSU
RC-1396	Development of Roughness Thresholds for the Preventive Maintenance of Pavements based on Dynamic Loading Considerations and Damage Analysis - Volume I and Volume II	K. Chatti D. Lee G. Baladi - MSU
R-1397	Analysis of the Bridge Barrier Railing Barrier Railing, Type 5; and Bridge Railing, Aesthetic Parapet Tube.	Roger Till
RC-1398A	Crash Testing of Michigan's Type B (W-Beam) Guardrail System	Univ. of Nebraska - Lincoln
RC-1398B	Crash Testing of Michigan's Type B (W-Beam) Guardrail System - Phase II	Univ. of Nebraska - Lincoln
RC-1399	Concrete Mix Design, Process Manual	Gail Grove
R-1400	Field Evaluation of Experimental Low VOC Bridge Paints	Bryon D. Beck
RC-1401	Investigation of Transverse Cracking on Michigan PCC Pavements over Open-Graded Drainage Courses	W. Hansen E. Jensen - UM
R-1402	Michigan Intelligent Transportation Systems Infrastructure: Structural Evaluation and Inspection Procedures NOT YET PUBLISHED	Amir Gilani, David Juntunen, Larry Pearson
RC-1403	Evaluation of Concrete Permeability by Ultrasonic Testing Techniques	I. O. Yaman H. Aktan H. Karaca - WSU
RC-1404	Transverse Crack Propagation of JPCP as Related to PCC Toughness	W. Hansen E. Jensen - UM
RC-1405	Construction Project Scheduling at MDOT	K. Mattila R. Gronevielt - MTU

RC-1406	A comparative Bond Study of stainless steel Reinforcement in Concrete	T. Ahlborn T. Denhartigh - MTU
<u>RC-1407</u>	Field Performance Polymer Concrete Bridge Deck Overlays in MI - Final report was numbered RC-1422; cancel this number	
R-1408	A-588 Bridge Mounted Sign Failure Investigation	D. Juntunen, P.E.
RC-1409	Synthesis and Review of Superpave Implementation	R. C. Williams - MTU
RC-1410	Development of Laboratory Performance Test Procedures and Trial Specifications for Hot Mix: Phase II	R. C. Williams K. Hofmann - MTU
RC-1411	Development and Evaluation of the Lane Merge Traffic Control System at Construction Work Zones	T. Datta K. Schattler C. Hill - WSU
R-1412	Investigation of Steel Box Girder Pier Caps on S05 of 63103	R. Till
RC-1412	Causes and Cures for Prestressed Concrete I-Beam End Deterioration	T. Ahlborn - MTU H. Aktan - WSU
RC-1413	Investigation of the Adequacy of Current Bridge Design Loads in the State of Michigan	J. van de Lindt - MTU G. Fu - WSU
R-1414	Performance Evaluation of Adhesive Anchors Under Sustained Loading NOT DONE	Amir Gilani Peter Jansson
RC-1415	Evaluation of the Dynamics of Fracture Characteristics of Aggregate in PCC Pavement	S. Vitton G. Dewey G. Suhhash
RC-1416	Identify Causes for Under Performing Rubblized Concrete Pavement Projects; Volume I and Volume II (Appendices	G. Baladi T. Svasdisant - MSU
R-1417	Three Year Evaluation of Whitetopping Project on M-46 Draft logged in 02-21-03	M. J. Eacker
R-1418	Agricultural By-Products for Anti-icing and Deicing Use in Michigan	S. Kahl
RC-1419	Work Item Production Rates for MDOT Projects	K. Mattila M. Dina MTU
RC-1420	A Comparison of MDOT Scheduels as a Result of Special Provision for Progress Schedule FUSP102G	K. Mattila M. Bowman - MTU
RC-1421	Detecting and Quantifying Segregation in Bituminous Pavements and Relating its Effect Condition; Final Report and Appendix E	T. Wolff G. Baladi C. Chang - MSU
RC-1422	Field Performance of Polymer Bridge Deck Overlays in Michigan	R. Alger S. Gruenberg J. Wegleitner
R-1423	Concrete Surface Texture Study Draft logged in 11-21-02	R. Muethel T. Miller

RC-1424	Criteria and Benefits of Penetrating Sealants for Concrete Bridge Deck	H. Aktan U. Attanayaka S. Ng - WSU
RC-1425	A Study of Materials-Related-Distress (MRD) in Michigan's PCC Pavements - Phase 2	T. VanDam - MTU N. Buch - MSU K. Peterson L. Sutter
RC-1426	Mechanistic Design Implementation Plan for Flexible Pavements and Overlays	G. Baladi - MSU
RC-1427	Factors Affecting the Deterioration of Transverse Cracks in JRCP	J. Bruinsma - MSU
R-1428	Research Annual Report FY 00,01,02	T&R Section
RC-1429	Verification of Girder Distribution Factors for Continuous Steel Girder Bridges	A. Nowak - UM J. Eom D. Ferrand
RC-1430	Analytical Design Procedures and Load Rating for Isotropic Bridge Decks	M. Szerszen A. Nowak D. Ferrend
R-1431	Perpetual Pavement Demonstration Project on US-24 in Detroit	T. Hynes M. Eacker K. Bancroft
RC-1432	Aggregate Research Documentation Services	G. Grove S. G. Research Services
RC-1433A	Effect of Truck Loading on Bridges	
RC-1433B	Truck Loads on Selected Bridges in the Detroit Area	
RC-1434	Analysis of Bystander Noise Generated by Vehicle/Road Surface Interaction	J. Blough - MTU G. Gwaltney
RC-1435	Sensors to Monitor Bond in Concrete Bridges Rehabilitated with FRP	R. Harichandran - MSU Sangdo Hong
RC-1436	Development of Alternative Pavement Distress Index Models	G. Abu-Lebdeh - MSU R. Lyles G. Baladi K. Ahmed
RC-1437	Early Age Deck Cracking	WSU
RC-1438	Durable Link Slabs for Jointless Bridge Decks Based on Strain-Hardening Cementitious Composites	V. Li - UM
RC-1439	Safety Performance Evaluation of Michigan's Temporary Traffic Control Devices - <i>No distribution per Project Manager, Jeff Grossklaus</i>	K. Polivka University of Nebraska-Lincoln
RC-1440	Determining the Causes of Top-Down Cracks in Bituminous Pavements	G. Baladi - MSU

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